

1. You can order your pizza with hand tossed crust or deep dish crust, your choice of one of 5 different toppings, in size small, medium or large. How many different ways are there to order pizza?

$$2 \cdot 5 \cdot 3 = \boxed{30 \text{ ways}}$$

2. PA license plates are made up of 3 letters followed by 4 numbers. How many different license plates can be made if letters and numbers can be repeated?

$$\frac{26}{L} \cdot \frac{26}{L} \cdot \frac{26}{L} \cdot \frac{10}{\#} \cdot \frac{10}{\#} \cdot \frac{10}{\#} \cdot \frac{10}{\#} = \boxed{175,760,000}$$

3. Find the number of distinguishable permutations of the letters in the word SENSES.

$$\frac{6!}{3!2!1!} = \boxed{60}$$

repetition!

4. There are five people waiting on an elevator to get to the bottom floor and they are all equally likely to exit first. How many different ways can they exit the elevator?

$$5! = \boxed{120}$$

or

$$5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 120$$

5. You are visiting a zoo and you have 7 exhibits left to see. You have time to see 3 more. How many different combinations of exhibits can you see?

$${}^7C_3 = \boxed{35 \text{ combinations}}$$

6. A six sided die is rolled. Find the probability that you roll a 3 or a prime number.

$$P(3) = \frac{1}{6}$$

$$P(\text{prime}) = \frac{4}{6}$$

1 2 3 5

$$P(3 + \text{prime}) = \frac{1}{6}$$

$$\frac{1}{6} + \frac{4}{6} - \frac{1}{6} = \frac{4}{6} = \boxed{\frac{2}{3}}$$

or

$$\boxed{66.\bar{6}\%}$$

7. A committee is to consist of 3 men and 3 women. If 7 men and 8 women are interested in being on the committee, how many different 6 person committees can be formed?

$${}^7C_3 \cdot {}^8C_3 = 35 \cdot 56 = \boxed{1960}$$

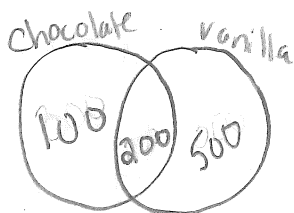
8. At a car lot, there are 16 white, 7 red, 8 blue and 9 black cars. You randomly pick a set of keys to one of the cars. What is the probability of not choosing a set of keys to a blue car?

$$1 - P(\text{blue}) = 1 - \frac{8}{40} = \frac{32}{40} = \boxed{\frac{4}{5} \text{ or } .8 \text{ or } 80\%}$$

9. You flip a coin and roll a die. What is the probability that you get heads and roll an even number?

$$P(H) \cdot P(\text{even}) = \frac{1}{2} \cdot \frac{3}{6} = \frac{3}{12} = \boxed{\frac{1}{4} \text{ or } .25 \text{ or } 25\%}$$

10. 800 people were surveyed and asked whether they like chocolate or vanilla ice cream. 300 people responded that they liked chocolate and 200 responded that they like both. How many people responded that they like chocolate or vanilla?



$\boxed{800 \text{ people}}$

1. The data below represent the amount of time a person spends driving a week, to the nearest hour.

8, 4, 6, 10, 11, 5, 6, 2, 4, 5, 5, 1, 0, 2, 2, 3, 7, 5, 2, 8

0 1 2 2 2 2 3 4 4 5 5 5 5 6 6 7 8 8 10 11

- a) Find the mean, median, mode, and range for the data.

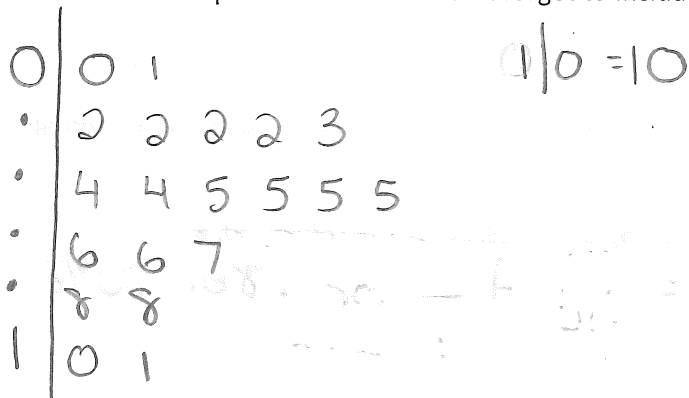
mean: $\frac{96}{20} = 4.8$

range: $11 - 0 = 11$

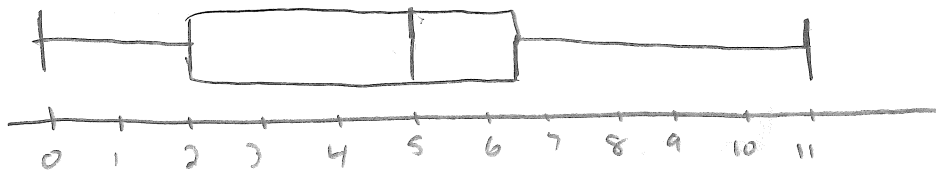
median: 5

mode: 2 and 5

- b) Make a stem and leaf plot for the data. Don't forget to include a key.



- c) Make a box and whisker plot, labeling any outliers with an *.



min: 0

Q1: 2

med: 5

Q3: 6.5

max: 11

$IQR = 6.5 - 2 = 4.5$

$1.5(4.5) = 6.75$

$Q1 - 6.75 = 2 - 6.75 = -4.75$

$Q3 + 6.75 = 6.5 + 6.75 = 13.25$

all data is in between -4.75 and 13.25,
so there are no outliers.

2. The circle graph displays the number of votes for the new school mascot. There are 440 students who voted.

a) How many students voted for Melissa?

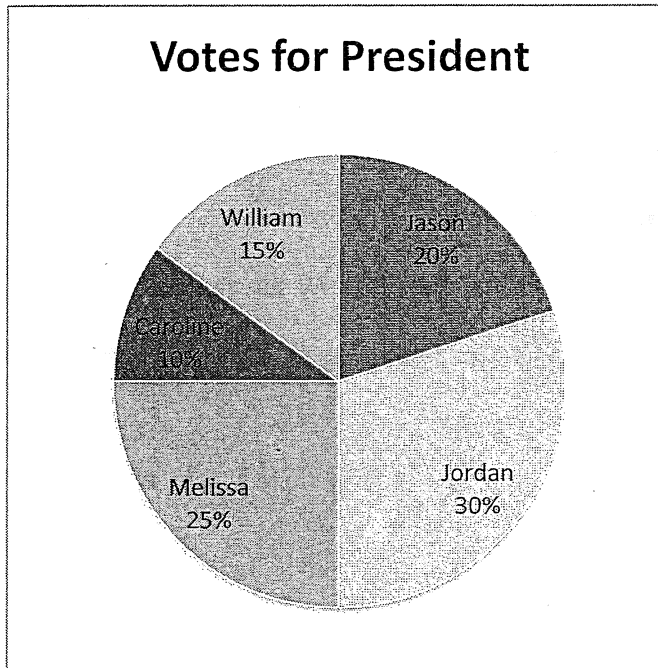
$$.25(440) = \boxed{110}$$

b) What is the measure of the central angle for Jason's sector?

$$\frac{20}{100} = \frac{x}{360^\circ}$$

$$7200 = 100x$$

$$\boxed{x = 72^\circ}$$



3. The data below give the amounts of money in dollars that 25 students estimate they spend during an average week. Create a histogram to display the data.

10, 17, 20, 15, 22, 30, 25, 10, 20, 15, 24, 18, 21, 22, 25, 12, 13, 18, 20, 20, 14, 17, 25, 30, 6

interval	frequency
6-10	III (3)
11-15	IIII (5)
16-20	IIIIII (8)
21-25	IIII (7)
26-30	II (2)

